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THE AGRICULTURAL SITUATION FOR 1918

A SERIES OF STATEMENTS PREPARED UNDER THE DIRECTION OF THE SECRETARY OF AGRICULTURE

PART X

WOOL

WAR MAKES MORE SHEEP AND WOOL NECESSARY

CONTENTS

Page
Our dependence upon foreign wool.... 3
Requirements and supplies.................. 3
Why American wool production has not advanced 7
Possibility of increased production of wool in the United States........ 8
Conservation of sheep to increase the wool supply................................... 9
Hastening the development of the farm sheep business......................... 11
Aiding the industry............................... 13

WASHINGTON, MARCH 15, 1918

WAR MAKES MORE SHEEP AND WOOL NECESSARY.

CONTENTS.

	Page.		Page.
Our dependence upon foreign wool	3	Conservation of sheep to increase the wool supply	9
Requirements and supplies	3	Hastening the development of the farm sheep business	11
Why American wool production has not advanced	7	Aiding the industry	13
Possibility of increased production of wool in the United States	8		

OUR DEPENDENCE UPON FOREIGN WOOL.

WAR has given the sheep and wool industry a stupendous task. The wool produced in this country furnishes only about 50 per cent of the amount used here by woolen mills in peace times; the war has increased the demand for wool, and of course accentuates our dependence upon supplies from foreign countries. The war has further increased the perplexity of the domestic situation by making unavailable certain supplies which exist in other parts of the world. To equip 2,000,000 soldiers and clothe them for one year would require the entire quantity of wool grown annually in this country, even if it were all suitable for military use.

REQUIREMENTS AND SUPPLIES.

The dependence of the United States upon other countries for half or more of its supply of wool is shown by the figures of production, imports, and domestic exports. In 1913 this country produced 296 million pounds of wool and its net imports were 245 millions. Domestic exports deducted left 540½ millions available for consumption. Our own production, therefore, formed but 54.8 per cent of the available supply. Since 1913 the production has remained about the same, but net imports have increased, running from 295½ million pounds in 1914 to 524 millions in 1915 and 362 millions in 1916. This increase in net imports was due partly to the filling by American manufacturers of contracts for military goods for foreign governments. Though exports increased after 1913, the supply available for consumption rose to 577½ million pounds in 1914, 805 millions in 1915, and 649 millions in 1916, of which our own production formed 50.2 per cent in 1914, 35.5 per cent in 1915, and 44.5 per cent in 1916. (Table 1.)

TABLE 1.—*Wool in the United States: Production, imports, exports, and quantity available for consumption.*

Year.	Wool.					Population June 1 (Continental United States).
	Production *a* (calendar year).	Net imports, *b* year beginning July 1.	Domestic exports, year beginning July 1.	Available for consumption.		
				Total.	Per capita.	
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	
1913	296,175,300	244,807,884	335,348	540,647,836	5.57	97,028,497
1914	290,192,000	295,535,221	8,158,300	577,568,921	5.85	98,646,491
1915	285,726,000	523,912,814	4,418,915	805,219,899	8.03	100,264,485
1916	288,490,000	362,379,751	2,148,350	648,721,401	6.37	101,882,479
1917	*c* 288,573,000	....	....	....	....	103,500,473

a Including pulled wool, i. e., wool taken from the hides of sheep and lambs slaughtered for meat. This does not include stock of wool carried over from one year to another.

b Gross imports less re-exports.

c Includes rough estimate of pulled wool, 43,000,000 pounds.

NOTE.—Prior to November 30, 1913, the following item was included in "unmanufactured wool": "Hair of the angora goat, alpaca, and other like animals." Imports of this class of fibers for fiscal years were: 1914, 1,717,097 pounds; 1915, 5,301,563; 1916, 9,145,278; and 1917, 8,162,093 pounds.

The importance of the wool which we obtain from other countries is apparent. The war, however, has made great changes in the sources from which wool imports are received. Whereas in 1914 the United Kingdom and Australia together provided us two-fifths of our wool imports, in 1917 they sent us very little, the supplies from the United Kingdom dropping from 80 million pounds in the former year to 4 millions in the latter year[1] and those from Australia dropping from 24 millions to 1 million. Fortunately we were able to increase greatly the quantities obtained from South America and British South Africa. The imports from Argentina rose from 37 million pounds in 1914 to

TABLE 2.—*Wool imports into the United States, by principal countries from which consigned.*

[In millions of pounds; year ending June 30.]

Country from which consigned.	Total wool.		Class 1, clothing wool.		Class 2, combing wool.		Class 3, carpet wool.	
	1917.	1914.	1917.	1914.	1917.	1914.	1917.	1914.
Argentina	210	37	187	31	8	....	15	6
Australia	1	24	1	24	....	....	....	....
British South Africa	27	1	24	1	....	....	3	....
Chile	15	....	12	....	....	....	3	....
China	41	30	15	....	1	....	25	30
Russia, European	....	18	....	....	....	....	....	18
United Kingdom	4	80	1	45	....	13	3	22
Uruguay	36	9	33	8	....	....	3	1
All other countries	30	47	6	16	8	6	16	25
Total, all countries	364	246	279	125	17	19	68	102

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[1] For the most part wools exported from the United Kingdom are those grown in other parts of the world and sent to the sales held in London, attended by buyers from various parts of the world.

210 millions in 1917; Uruguay increased her consignments to us from 9 millions to 36 millions; Chile sent 15 millions in 1917, though she sent none in 1914; and British South Africa increased her shipments to us, the figures rising from 1 million pounds in 1914 to 27 millions in 1917. (Table 2.)

The shifting of the channels of international trade in wool is indicated in another way in Table 3, in which the countries are grouped according to their belligerency or neutrality. The table shows, for instance, for the groups in which Argentina and British South Africa are placed, that their total exports of wool decreased from 1913 to 1916, though exports to the United States were increasing. It is possible, therefore, that we may be able to rely upon these countries for large supplies, if we can continue to utilize ships to transport them.

Table 3.—*Wool exports and imports of certain groups of countries, showing the shifting channels of trade.*

[In millions of pounds; calendar years.]

Group and year.	Exports.[a]	Imports.[a]
France, Italy, Russia, and the United Kingdom:		
1913	151	1,336
1916	43	954
Netherlands, Norway, Spain, and Switzerland:		
1913	62	52
1916	12	62
Austria-Hungary and Germany:		
1913	58	541
1916	....	....
Argentina, Australia, Canada, Finland, and New Zealand:		
1913	1,062	11
1916	872	30
British South Africa, China, Egypt, and British India:		
1913	290	29
1916	258	5

[a] For most countries the exports refer to domestic production and the imports are for consumption.

The wool interests of the United States are closely interwoven with those of a number of other countries. Australia, New Zealand, South America, South Africa, and our own Western States are large producers of the better class of wools for the manufacture of clothing. In these agricultural frontiers pastoral industries are important, owing to distance from markets and the cheapness of the feed furnished by the native grasses and other vegetation; sheep have been kept mainly for wool, to the exclusion, until recent years, of the British types of sheep bred for the production of both wool and meat. In New Zealand and the United States most of the larger sheep raisers now breed types of sheep that are available for meat production as well as for wool.

In the regions mentioned, however, much of the grazing area has been occupied, and wool production, though not decreasing in all cases, has not been increasing. Much grazing land has been taken from pastoral use to be devoted to the production of wheat and other crops.

Thus, even in peace times, while the normal demand for wool was increasing, the supply was barely holding its own, and the large extra demands for war use quickly caused an advance in price. The general average of wool values in 1917, in countries where competitive buying was continued, became more than twice that of the period just before the war. Average prices paid to producers at local markets in the United States for unwashed wool advanced steadily from 18.6 cents per pound in December, 1914, to 58.2 cents in December, 1917. (Table 4.)

TABLE 4.—*Wool prices: Averages paid to producers for unwashed wool at local markets in the United States.*

[15th of each month; cents per pound.]

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1910	24.5	24.6	24.9	22.3	22.8	19.5	19.0	19.5	17.7	18.1	17.9	17.8
1911	17.3	17.3	16.8	15.7	14.7	15.5	15.4	16.0	15.6	15.5	15.6	15.5
1912	16.2	16.3	16.9	17.3	17.8	18.7	18.9	18.8	18.7	18.5	18.6	18.6
1913	18.6	18.7	18.4	17.7	16.3	15.6	15.9	15.8	15.8	15.5	15.6	16.1
1914	15.7	15.7	16.4	16.8	17.2	18.4	18.5	18.7	18.6	18.0	18.1	18.6
1915	18.6	20.2	22.8	22.7	22.0	23.7	24.2	23.8	23.3	22.7	22.7	23.3
1916	23.3	24.2	25.9	26.3	28.0	28.7	28.6	29.0	28.4	28.7	29.4	30.8
1917	31.8	32.7	36.7	38.4	43.7	49.8	54.3	54.8	54.2	55.5	55.9	58.2

In the midst of this era of world curtailment of wool production, high prices, and multiplied demands, the United States was forced into the war. Our standard of equipping our soldiers and sailors and clothing them for one year calls for the wool yield of 20 average sheep for every man in service. During recent years we have shorn about 35,000,000 sheep annually, and the pulled wool taken from sheep and lambs slaughtered for meat brings the total clip up to the equivalent of about 40,000,000 fleeces. If the entire amount of this wool were suitable for military use, it would supply only 2,000,000 men to fight for us in Europe. In fact, however, much of the home-grown wool is not of the kind suitable for the making of uniforms or military goods.

Continued imports, therefore, are necessary to supplement our supplies of wool, not only for military use but for civilian use as well. During the year 1917 considerable quantities of Australian wool were imported into the United States under special arrangements with the British Government. The amount of wool held by dealers and manufacturers at the beginning of 1918, added to the probable domestic production for the year, appeared sufficient for the estimated twelve months' requirements. It should be remembered, however, that these supplies had been maintained by use on the Pacific of ships that were urgently needed upon the Atlantic. Every extra fleece of American-grown wool is a direct contribution to increasing the shipping tonnage available for carrying supplies to Europe.

WHY AMERICAN WOOL PRODUCTION HAS NOT ADVANCED.

Many reasons, most of them good, may be assigned for this country's failure heretofore to increase its production of wool. First among them is a feeling of uncertainty which has long attached to the sheep raiser's business as a result of wide variations in prices.

In other respects, however, the wool situation is analogous to the meat situation, which is more generally understood. The period of most active development of our live-stock industries in this country was in the eighties, when the free and virgin lands of the Rocky Mountain States and large portions of the Southwestern and Pacific Coast States were being brought into use. The low price at which the growing eastern population was supplied with live stock and wool from these new sections made it necessary for eastern farmers largely to abandon the raising of beef cattle and sheep and engage in the production of the dairy and other products in which the competition of the Western States and exporting countries was less serious. Prior to the present war, the West had reached the maximum of its live-stock production. In fact a decline had begun, due chiefly to the occupation of the former grazing land by farmers, who could not become live-stock raisers for many years. In some cases the use of a single homestead claim for crop production prevented the grazing of an area which had furnished live-stock products much more valuable than the crops produced upon the homestead. Before the war began the increasing buying capacity of the country's rapidly growing population and the diminished production of farm and range had caused such an increase in prices of live stock and meat that the raising and fattening of beef cattle could safely be taken up on the high-priced farm lands of the East and the Middle West.

In the case of the sheep industry, conditions were not so encouraging to an increase in production. Foreign wools still came to our markets, and general agricultural conditions and the price of lambs were not such as actively to interest farmers until 1915. The market receipts of sheep at seven leading markets for that year were less than for 1914 by about 16 per cent and those for 1916 only about 4 per cent greater than for 1915.

This situation was due chiefly to the fact that in the period just preceding 1915 the volume of shipments was kept up by the marketing of flocks that were necessarily removed from the range because of homesteading, and in 1916, notwithstanding the incentive of higher prices, the number of sheep was not sufficient to maintain the earlier volume of shipments. Also, higher values following the beginning of the war increased the desire to retain breeding stock for further production. (Tables 5 and 6.)

TABLE 5.—*Sheep prices: Averages paid to producers at local markets in the United States.*

[15th of each month; dollars per 100 pounds.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910	5.63	5.09	5.64	6.10	5.79	5.44	5.47	4.68	4.81	4.68	4.63	4.54
1911	4.47	4.34	4.45	4.55	4.51	4.24	4.19	3.98	3.91	3.68	3.65	3.71
1912	3.89	4.01	4.12	4.57	4.74	4.52	4.21	4.26	4.11	4.19	4.05	4.21
1913	4.35	4.63	4.97	5.16	4.91	4.84	4.20	4.32	4.23	4.16	4.27	4.46
1914	4.67	4.67	4.77	4.96	4.87	4.70	4.75	4.87	4.80	4.81	4.68	4.95
1915	4.95	5.14	5.36	5.60	5.54	5.43	5.35	5.16	5.06	5.18	5.18	5.38
1916	5.52	5.90	6.35	6.61	6.66	6.54	6.33	6.22	6.25	6.20	6.41	6.77
1917	7.33	8.17	9.21	9.69	10.15	9.84	9.32	9.33	10.05	10.24	10.20	10.44

TABLE 6.—*Lamb prices: Averages paid to producers at local markets in the United States.*

[15th of each month; dollars per 100 pounds.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910	5.82	6.62	7.37	7.47	7.26	7.13	6.71	5.70	5.85	5.78	5.54	5.60
1911	5.71	5.44	5.49	5.77	5.74	5.51	5.42	5.25	5.02	4.68	4.68	4.93
1912	5.22	5.15	5.38	5.98	6.16	6.02	5.74	5.60	5.49	5.42	5.37	5.70
1913	6.03	6.34	6.56	6.59	6.66	6.36	6.05	5.50	5.51	5.51	5.64	5.85
1914	6.16	6.18	6.31	6.47	6.49	6.47	6.55	6.26	6.27	6.09	6.14	6.33
1915	6.47	6.67	6.06	7.35	7.32	7.26	7.21	6.70	6.71	6.70	6.76	7.02
1916	7.29	7.78	8.10	8.58	8.49	8.36	8.16	8.15	8.22	8.02	8.41	8.72
1917	9.59	10.51	11.46	12.03	12.51	12.64	11.19	12.08	13.06	14.09	13.79	13.81

The average prices given in Tables 5 and 6 are made up from thousands of reports received from local markets, States being weighted according to the importance of their sheep industry. These averages indicate the trend. Where shipments are chiefly lambs of the better grades, the prevailing prices naturally range much higher than those shown in Table 6.

In 1915 it was fully apparent that not only for the increase, but even for the maintenance of supplies of wool, lamb, and mutton in the United States it would be necessary to develop the industry upon farms. The wool- and meat-producing flocks of Great Britain furnish the most striking illustration of the profitableness of sheep raising upon the lands of higher value in old farming areas. At the beginning of this development of the farm sheep industry came the entrance of the United States into the war, with the greatly increased requirements for wool.

POSSIBILITY OF INCREASED PRODUCTION OF WOOL IN THE UNITED STATES.

Immediate opportunity for increasing the sheep population of this country is found on the rougher and idle lands of the Appalachian region, the cut-over timber lands of Wisconsin, Minnesota, and Michigan, and to some extent those of the South Atlantic and Gulf States.

The acreage of these areas that is suitable for sheep is alone capable of supporting as many breeding ewes as are now kept elsewhere in the country.

Unimproved land in farms also offers opportunity for increasing our sheep population. Such land amounts to nearly half of the total area in farms. To some extent these lands are now in use as live-stock pastures, but much of the area that is wholly idle would furnish fair summer grazing for sheep. Some readjustment with regard to cropping and the keeping of other stock would be required, to furnish winter feed, but under existing conditions of farm labor and the present grain prices this change would have a favorable effect upon the net farm income.

For the greater production of wool and mutton, however, future dependence must be placed chiefly upon the more general rearing of sheep upon improved lands. The keeping of one ewe to each 3 acres of all land in farms on one-fourth of the 90 per cent of farms now having no sheep would double the number now in the country. Sheep on farms seem to be assured a larger place, as successful participants with other stock in the economical and profitable utilization of the products of the soil, as well as producers of valuable clothing material for which there is no complete substitute. Before many decades have passed the United States should possess three or four times the present number of sheep. A doubling of the present number within 4 years is quite possible, and it would be of most valuable assistance to our war interests if such a result could be produced in a shorter time. Doubling our wool product would not render us independent of wool imports, but it would furnish all that is needed for military purposes and a large part of that needed for civilian uses.

CONSERVATION OF SHEEP TO INCREASE THE WOOL SUPPLY.

If the wool supply were the only cause for concern a policy of preserving all of the sheep and lambs ordinarily going to slaughter might be considered. If no females were slaughtered and all could be bred as soon as old enough the wool yield problem might be solved in a short time. Such a course, however, would disturb the meat situation greatly. The conservation of all the sheep and lambs which are usually slaughtered would require either an increase in the size of existing flocks beyond what the owners can secure feed and pasture for or the redistribution of ewes upon the idle lands and the idle parts of farms referred to. The latter course is the more logical one, but results therefrom can not be obtained quickly, whether provision is made for governmental or State aid in transferring sheep or matters are left for adjustment between the owners of surplus sheep and those of available lands, stimulated by attractive prices and by practical educational effort.

During the summer and fall of 1917, market receipts of farm-raised lambs contained a very small proportion of ewes, indicating the intention of farmers to retain their ewe lambs for use as breeders. The position of the larger western flock owners, however, is not generally understood. These men are still the chief reliance of our sheep industry. Legal prohibition of slaughter of ewes or ewe lambs, such as has been suggested frequently, would defeat the object sought. Many of the larger sheep owners of the West derive their income just as largely from the sale of lambs for slaughter as from wool sales. In most of the range area the business has been adjusted according to a sound economic plan whereby the available range is used for the keeping of breeding ewes. Only enough ewe lambs are kept to recruit the losses and the necessary sales of stock too old to be kept longer upon the range. The remainder of the lambs are shipped to market or to fattening yards when from 5 to 7 months old. To prevent the shipping of these lambs without making a place for them elsewhere would overtax greatly the available supply of grass and other feed on the range and result in the deterioration of the breeding flock and in very extensive losses. The conservation of sheep for breeding purposes can not be accomplished by legislation.

During the summer of 1917, when supplies of sheep and lambs were coming to central markets from western ranges, all available ewes of ages suitable for breeding were purchased for shipment to farms. Livestock commission firms reported that a great many more than were available could have been sold to farmers in Central and Eastern States.

In July, 1917, the Department of Agriculture received reports of over half a million ewes to be sold by western ranch men. Particulars as to their location, prices, etc., were furnished to county agricultural agents in sections that seemed likely to absorb breeding stock that might otherwise reach the slaughter pens. In Utah and Idaho large numbers of ewes were purchased from ranchmen by owners of irrigated farms. On one reclamation project in Idaho 23,000 breeding ewes were purchased. This plan gave smaller results in Eastern States, for the reason that most of those farmers who were ready to keep more sheep made their purchases direct from the markets, while those who were undecided as to prospects of profits in sheep raising were unwilling to pay the unusually high prices for breeding stock.

During the same period, the receipts of ewe lambs and old ewes at market centers were much smaller than in other years. This was due to two causes: First, a heavy loss of ewes during the winter of 1916-17 and a light yield of lambs made it necessary to retain ewe lambs to fill the places of ewes lost and also diminished greatly the supply of marketable lambs; second, the attractive high prices of lambs and wool caused the keeping of the full number of ewes for which feed could be made available, in order to increase the marketable output for 1918 and following years. Such useful ewes as reached market points were mainly taken quickly on orders of farmers in sections where sheep raising is better understood. Thus the conservation of breeding stock was in large part effected as a result of high prices created by the increased demands and the shortage of supplies.

HASTENING THE DEVELOPMENT OF THE FARM SHEEP BUSINESS.

Though much is yet to be done to improve the carrying capacity of the western range lands and to furnish facilities for increasing the production from those areas that should always be used for grazing, and though the possibilities of sheep raising on cut-over timber lands are very great, neither of these advances can be made to contribute so extensively and so quickly to market supplies as an increase of flocks on the farms of all parts of the country. Only one-tenth of all holdings now classed as farms maintain sheep. The establishment of flocks on as many as possible of the other farms that are suitable for sheep offers the greatest opportunity for quick results.

This is not wholly a war matter. When peace comes it will still be necessary for farmers to accord greater importance to live stock. The requirements of the country and the most economical use of farm crops and farm labor call for a much more general keeping of farm flocks of sheep, entirely aside from the war situation. The magnitude of such an undertaking argues against large results in a short time, but if the true facts and prospects can be adequately realized by farmers, within a space of two years it can be expected that the supply of both wool and meat will be increased materially.

An obstacle to any increase in the number and size of farm flocks is found in the prevalent idea that wool and meat prices, after the war, will recede quickly to low levels and cause a loss to those who have invested in higher-priced stock for breeding purposes. The statistics of the world supplies and requirements, however, and the trend of prices prior to the war indicate that we already had entered a new era with regard to the live-stock industry. While it is not possible to give a guarantee as to future values, the great use of wool by all countries at war undoubtedly will deplete stocks rapidly, and this will tend to influence the market for some time to come.

The belief that sheep do not have a place upon high-priced, highly productive land also is inapplicable at present. It is true that the development of the sheep industry on the rougher, cheaper, or drier types of land has prevented and in some cases destroyed the business of sheep raising upon farms of high productive capacity. Conditions now are changed. The sheep today provides a profitable source of meat no less than an income from the sale of wool.

The large use of forage and pasturage and the small use of grain favor the keeping of a flock on the farm. Sheep are most profitable and most healthy when kept upon pasture lands or used for grazing off such forage crops as cereal mixtures, rape, cow peas, etc. Where large grass pastures are available, the forage crops may not be required, but under common farm conditions the forage crops will have a part in the best flock husbandry. With good roughages, made up in part of leguminous hays, little grain is needed for wintering breeding stock, and if ewes do not lamb until they go to pasture grain may be wholly eliminated from winter rations. Lambs are most in demand and most profitably disposed of when weighing from 65 to 90 pounds. Ordinarily the lower weight will be reached at from 4 to 5 months of age and without the use of grain if stock is of good breeding and kept upon good pasturage. The lamb carcass requires less fat to render it suitable for the table than is necessary in any other class of meat. This fact particularly adapts sheep raising to sections that are not adapted to production of grains but can furnish good pasturage and forage crops. It also enables the flock to produce a cash return from forage crops and other grazing included in a diversified plan of cropping. The rapidity with which lambs attain marketable weight insures very quick returns at a low cost.

The comparatively small amount of labor required in caring for sheep is another argument in favor of the farm flock. The cost of labor per dollar's worth of product from sheep is less than with other live stock. Lambs are made ready for market without special finishing rations and while gathering their own feed, and this permits them to be kept without serious addition to the demands upon farm labor. The farm flock requires study and attention, however, if good health is to be maintained and the greatest returns at lowest cost obtained. The labor of feeding in winter is not large, but continuous and competent attention for several weeks at lambing time is necessary.

The dog menace is a difficulty in the way of the early development of farm sheep raising. Many farmers in the Middle West and in the East who have tried to raise sheep have been discouraged to the point of disposing of their flocks by the activities of the sheep-killing dog. The dog not only has reduced the number of sheep in the country but has kept many men out of the business who otherwise would be inclined to enter it. The moral effect on a person who has seen animals maimed or killed by a dog helps to explain why the sheep industry has not advanced. It has been estimated that in 1914 more than 100,000 sheep were killed by dogs. Nearly every State in the Union has laws which are designed to protect flock-masters from losses by dogs, but most of these laws are inadequate. Nearly every State empowers a sheep owner to kill any dog found in the act of killing, wounding, or worrying sheep, and to recover damages from the owner of the dog for all the sheep killed. At a glance such a clause would seem to offer adequate protection. The problem of the farmer, however, has been to catch the dog in the act and then to find its owner. Even the States which offer compensation from the dog tax fund for all sheep killed by dogs have failed to protect the industry. It is prevention of damage which is needed—not the cure.

Many States are beginning to realize the importance of protecting flocks, and notable progress has been made by some of them in securing effective legislation for the elimination of the sheep-killing dog. To be effective a law designed to protect sheep raising from the menace of dogs should (a) provide for a license fee which will reduce the number of dogs kept by persons who are not willing to prevent them from roaming at large; (b) establish a system of tagging licensed dogs which will make it possible to determine the owner of a dog found doing damage and allow officials to recognize and capture or destroy dogs for which the license fee has not been paid; (c) require owners of licensed dogs to prevent them from running unattended at hours or in places at which worrying or killing live stock is likely to occur; (d) compensate owners for the full value of sheep killed by dogs and for injury to those not actually killed; (e) provide fully for the enforcement of the law by placing responsibility upon designated officials.

The States of New York and Pennsylvania have enacted very comprehensive laws to meet this situation. In some States, however, where the law in other respects was ample to meet the needs, no proper provision was made to secure its active enforcement, and the danger to and discouragement of sheep raising has continued. The placing of a Federal tax upon dogs has been widely agitated. Such a tax would render still more expensive the keeping of dogs and in that way further reduce the numbers kept and improperly cared for. It would not, however, remove the need of adequate enforcement of State laws which render owners liable for injury done by dogs owned by them.

AIDING THE INDUSTRY.

In 1917 the increased interest of farmers in the raising of sheep resulted in numerous calls upon agricultural extension forces and other educational agencies for information and assistance in establishing and managing farm flocks. In 12 States, specialists in sheep husbandry were engaged to assist county agents along this line. In other States other agencies assisted in the work. There is still an urgent need for direction in this industry from which so much is needed and which until recently has been largely overlooked by the farmers and by the public agricultural institutions of many States.

Attention of State agricultural officials, members of councils of defense, and others interested in strengthening the agricultural position of the United States for its part in the war and for the period following, is directed to the opportunities offered in the following lines of action for developing the sheep industry:

(1) Securing improvement in State laws to prevent the killing of sheep by dogs.

(2) Encouragement of the organization and maintenance of boys' sheep clubs.

(3) Providing greater facilities for education in relation to sheep raising, in schools, colleges, and particularly in extension work.

(4) Utilizing idle lands in unused portions of farms by grazing them with sheep.

(5) Showing the safety and need of a more liberal attitude on the part of country bankers in lending money to prospective sheep raisers.

PUBLICATIONS OF THE UNITED STATES DEPARTMENT OF AGRICULTURE RELATING TO SHEEP AND WOOL.

[Available for free distribution.]

FARMERS' BULLETINS.

526. Mutton and Its Value in the Diet.
576. Breeds of Sheep for the Farm.
935. The Sheep-Killing Dog.
713. Sheep Scab.
718. Cooperative Live Stock Shipping Associations.
724. Feeding of Grain Sorghums to Live Stock.
798. The Sheep Tick and Its Eradication by Dipping.
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